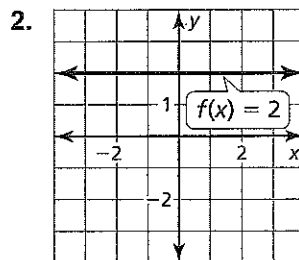
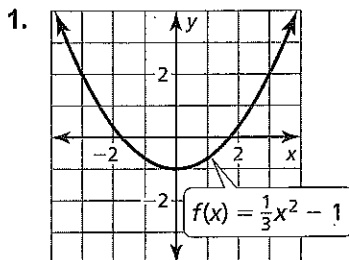


1.1 Practice A

In Exercises 1 and 2, identify the function family to which f belongs. Compare the graph of f to the graph of its parent function.



3. You purchased a computer for your business for \$800. Using straight-line depreciation, the amount of depreciation allowed for each year after the purchase is given by the function $f(x) = 800 - 114.29x$. What type of function can you use to model the data?

In Exercises 4–9, graph the function and its parent function. Then describe the transformation.

4. $h(x) = x + 2$

5. $f(x) = x - 3$

6. $g(x) = x^2 + 2$

7. $f(x) = (x - 1)^2$

8. $h(x) = |x + 4|$

9. $f(x) = 5$

In Exercises 10–15, graph the function and its parent function. Then describe the transformation.

10. $f(x) = 3x$

11. $g(x) = \frac{1}{2}x$

12. $h(x) = 3x^2$

13. $g(x) = \frac{1}{4}x^2$

14. $h(x) = 2|x|$

15. $f(x) = \frac{5}{2}x$

In Exercises 16–18, use a graphing calculator to graph the function and its parent function. Then describe the transformations.

16. $f(x) = \frac{1}{3}x - 1$

17. $h(x) = 2|x| - 3$

18. $g(x) = \frac{5}{3}x^2 + 2$

19. In the same coordinate plane, sketch the graph of a parent absolute-value function and the graph of an absolute-value function that has no x -intercepts. Describe the transformation(s) of the parent function.

1.2 Practice A

In Exercises 1–4, write a function g whose graph represents the indicated transformation of the graph of f . Use a graphing calculator to check your answer.

1. $f(x) = x - 2$; translation 5 units left
2. $f(x) = x + 1$; translation 4 units right
3. $f(x) = |3x + 2| + 4$; translation 3 units down
4. $f(x) = 4x - 5$; translation 3 units up

In Exercises 5–8, write a function g whose graph represents the indicated transformation of the graph of f . Use a graphing calculator to check your answer.

5. $f(x) = -3x + 7$; reflection in the x -axis
6. $f(x) = \frac{1}{3}x - 2$; reflection in the x -axis
7. $f(x) = |4x| - 6$; reflection in the y -axis
8. $f(x) = |3x - 5| + 3$; reflection in the y -axis

In Exercises 9–12, write a function g whose graph represents the indicated transformation of the graph of f . Use a graphing calculator to check your answer.

9. $f(x) = x + 3$; vertical stretch by a factor of 4
10. $f(x) = 4x + 3$; vertical shrink by a factor of $\frac{1}{3}$
11. $f(x) = |3x| + 2$; horizontal shrink by a factor of $\frac{1}{3}$
12. $f(x) = |x + 1|$; horizontal stretch by a factor of 3

In Exercises 13 and 14, write a function g whose graph represents the indicated transformation of the graph of f .

13. $f(x) = x$; vertical shrink by a factor of $\frac{1}{3}$ followed by a translation 4 units down
14. $f(x) = |x|$; translation 3 units left followed by a horizontal shrink by a factor of $\frac{1}{2}$